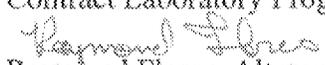




UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

July 9, 2019

MEMORANDUM

SUBJECT: Contract Laboratory Program Data Review
FROM: 
Raymond Flores, Alternate ESAT Regional Project Officer
Environmental Services Branch (6LASBE)
TO: Kenneth Shewmake, Superfund Project Manager (6SEDAS)

Site: LANE PLATING WORKS
Case#: 48266
SDG#: MF9L61

The EPA Region 6 Environmental Services Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for regional use. Problems, if any, are listed in the report narrative. If you have any questions regarding the data review report, please contact me at (281) 983-2139.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 6
 HOUSTON BRANCH
 10625 FALLSTONE ROAD
 HOUSTON, TEXAS 77099

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO.	48266	SITE	Lane Plating Works
LABORATORY	ALS	NO. OF SAMPLES	20
CONTRACT#	EP-W-14-027	MATRIX	Sediment
SDG#	MF9L61	REVIEWER (IF NOT ESB)	ESAT
SOW#	ISM02.4	REVIEWER'S NAME	Ying-Ping Hsieh
SF#	303DD2A6MS	COMPLETION DATE	July 8, 2019

SAMPLE NO.	MF9L61	MF9L65	MF9L70	MF9L74	MF9L78
	MF9L62	MF9L66	MF9L71	MF9L75	MF9L79
	MF9L63	MF9L67	MF9L72	MF9L76	MF9M24
	MF9L64	MF9L69	MF9L73	MF9L77	MF9M33

DATA ASSESSMENT SUMMARY

	ICP-AES	ICP-MS	HG	CN
1. HOLDING TIMES	<u>O</u>	<u>O</u>	<u>O</u>	<u>O</u>
2. CALIBRATIONS	<u>O</u>	<u>O</u>	<u>O</u>	<u>O</u>
3. BLANKS	<u>O</u>	<u>M</u>	<u>O</u>	<u>O</u>
4. MATRIX SPIKES	<u>O</u>	<u>O</u>	<u>O</u>	<u>O</u>
5. DUPLICATE ANALYSIS	<u>O</u>	<u>O</u>	<u>O</u>	<u>O</u>
6. ICP QC	<u>O</u>	<u>M</u>		
7. LCS	<u>O</u>	<u>O</u>		
8. SAMPLE VERIFICATION	<u>O</u>	<u>O</u>	<u>O</u>	<u>O</u>
9. OTHER QC	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
10. OVERALL ASSESSMENT	<u>O</u>	<u>M</u>	<u>O</u>	<u>O</u>

O = Data had no problems.
 M = Data qualified due to major or minor problems.
 Z = Data unacceptable.
 NA = Not applicable.

ACTION ITEMS:

AREAS OF CONCERN: ICP-MS: Laboratory blank readings caused the qualification of one beryllium result. The zinc laboratory serial dilution difference exceeded the expanded QC limit for sediment samples.

COMMENTS/CLARIFICATIONS
REGION 6 CLP QA REVIEW

CASE 48266 SDG MF9L61 SITE Lane Plating Works LAB ALS

COMMENTS: This SDG consisted of 20 sediment samples for total metals (by ICP-AES & ICP-MS), mercury, and cyanide analyses following SOW ISM02.4. The sampler designated sample MF9L79 as the QC sample.

The SOW requires that the soil/sediment sample results be adjusted for moisture content and dilution, which raised some adjusted QLS above the CRQLs specified in the SOW. The adjusted CRQLs were reported by the laboratory.

S4VEM was performed for this package as requested by the Region. The target compounds of concern with the action levels in parentheses are chromium (1 mg/Kg), lead (1 mg/Kg), mercury (0.1 mg/Kg), and cyanide (0.5 mg/Kg). The target compounds of concern reported at concentrations above the action levels are chromium and lead in all samples. The laboratory diluted (up to 5X) and reanalyzed 19 samples because of high calcium concentrations.

OVERALL ASSESSMENT: Some results were qualified for all samples because of laboratory blank readings and/or serial dilution difference problems. ESAT's final data qualifiers in the DST indicate the technical usability of all reported sample results. An Evidence Audit was conducted for the CSF, and the audit results were reported on the Evidence Inventory Checklist. The DST included in this report is the final version.

INORGANIC ACRONYMS

CCB	Continuing Calibration Blank
CCS	Contract Compliance Screening
CCV	Continuing Calibration Verification
CN	Cyanide
CRQL	Contract Required Quantitation Limit
CSF	Complete SDG File
DST	Data Summary Table
EDM	EXES Data Manager
HG	Mercury
ICB	Initial Calibration Blank
ICP	Inductively Coupled Plasma
ICP-ABS	Inductively Coupled Plasma-Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma-Mass Spectrometry
ICS	Interference Check Sample
ICV	Initial Calibration Verification
IS	Internal Standard
LCS	Laboratory Control Sample
MDL	Method Detection Limit
NFG	National Functional Guidelines
PE	Performance Evaluation
%D	Percent Difference
%R	Percent Recovery
%RI	Percent Relative Intensity
%RSD	Percent Relative Standard Deviation
QA	Quality Assurance
QC	Quality Control
QL	Quantitation Limit
RPD	Relative Percent Difference
RSCC	Regional Sample Control Center
S3VEM	Stage 3 Validation Electronic and Manual (previously called Modified CADRE Review)
S4VEM	Stage 4 Validation Electronic and Manual (previously called Standard Review)
SDG	Sample Delivery Group
SMO	Sample Management Office
SOW	Statement of Work
SQL	Sample Quantitation Limit
TAL	Target Analyte List

HEADER DEFINITIONS FOR INORGANIC EXCEL DST

CASE: Case Number
SDG: SDG Number
EPASAMP: EPA Sample Number
LABID: Laboratory File/Sample ID
MATRIX: Sample Matrix
QCCOD: Sample QC Code
SMPQUAL: Sample Qualifier
ANDATE: Sample Analysis Date
ANTIME: Sample Analysis Time
CASNUM: Compound CAS Number
ANALYTE: Compound Name
CONC: Compound Concentration
VALDQAL: Region 6 Inorganic Data Validation Qualifier (see
Inorganic Data Qualifier Definitions on the next page)
UNITS: Concentration Units
ADJCRQL: Adjusted Contract Required Quantitation Limit Value
SMPDATE: Sampling Date
PRPDATE: Sample Preparation Date
LRDATE: Laboratory Receipt Date
LEVEL: Sample Level
PERSOLD: Sample Percent Solids
SMPWTVL: Sample Weight (Soil Samples)/Initial Sample Volume (Water
Samples)
FTNLVOL: Final Sample Volume
METHOD: Method of Analysis
STATLOC: Station Location

Disclaimer: ESAT verified the accuracy of the information reported in the Excel DST only for the following data fields: CASE, SDG, EPASAMP, MATRIX, ANALYTE, CONC, UNITS, ADJCRQL, VALDQAL, and PERSOLD. The data qualifiers in the VALDQAL column indicate the technical usability of the reported results.

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

- U Not detected at reported quantitation limit.
- L Reported concentration is between the MDL and the CRQL.
- J Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, etc., or the result is below the CRQL.
- R Result is unusable.
- F A possibility of a false negative exists.
- UC Reported concentration should be used as a raised quantitation limit because of blank effects and/or laboratory or field contamination.
- + High biased. Actual concentration may be lower than the concentration reported.
- Low biased. Actual concentration may be higher than the concentration reported.
- W The result should be used with caution. The result was reported on a dry weight basis although the sample did not conform to the EPA Office of Water definition of a soil sample because of its high water content (>70% moisture).

CASE	SDG	EFASAMP	LABID	MATRIX	QCCODE	ANALYTE	CASNUM	ANALYTE	CONC	VALDCAL	UNITS	ADJCORL	SIMPDATE	PRPDATE	LRDATE	PERSOLD	SIMPWTYL	PIRVOL	METHOD	STATLOC	DVLEV
48298	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-36-0 Antimony	1.6	U	mg/kg	1.6	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48299	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-38-3 Arsenic	0.81	U	mg/kg	0.81	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48300	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-39-3 Barium	97.5	U	mg/kg	97.5	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48301	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-41-7 Beryllium	0.81	U	mg/kg	0.81	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48302	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-43-9 Cadmium	0.91	U	mg/kg	0.91	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48303	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-45-9 Chromium	18.8	U	mg/kg	18.8	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48304	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-48-4 Cobalt	7.9	U	mg/kg	7.9	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48305	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-50-8 Copper	20.3	U	mg/kg	20.3	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48306	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-52-2 Lead	68.3	U	mg/kg	68.3	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48307	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-52-2 Vanadium	31.1	U	mg/kg	31.1	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48308	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	17:19:20	7440-56-6 Zinc	33.3	J	mg/kg	33.3	06/14/2019	06/06/2019	06/15/2019	59.7	1.0284	500	MS	USED-3-0-0.5	SAVEM
48309	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-36-0 Antimony	1.9	U	mg/kg	1.9	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48310	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-38-3 Arsenic	0.94	U	mg/kg	0.94	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48311	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-39-3 Barium	108	U	mg/kg	108	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48312	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-41-7 Beryllium	0.94	U	mg/kg	0.94	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48313	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-43-9 Cadmium	0.94	U	mg/kg	0.94	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48314	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-45-9 Chromium	13.0	U	mg/kg	13.0	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48315	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-47-3 Cobalt	7.5	U	mg/kg	7.5	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48316	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-50-8 Copper	27.7	U	mg/kg	27.7	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48317	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-52-2 Lead	80.0	U	mg/kg	80.0	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48318	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-52-2 Vanadium	43.6	U	mg/kg	43.6	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48319	MF9L61	MF9L61	1914424031	S	Field Sample	06/04/2019	18:11:45	7440-56-6 Zinc	23.5	J	mg/kg	23.5	06/16/2019	06/06/2019	06/15/2019	51.7	1.0276	500	MS	USED-3-0-0.5	SAVEM
48320	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-36-0 Antimony	1.3	U	mg/kg	1.3	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48321	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-38-3 Arsenic	0.84	U	mg/kg	0.84	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48322	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-39-3 Barium	2.9	U	mg/kg	2.9	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48323	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-41-7 Beryllium	41.4	U	mg/kg	41.4	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48324	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-43-9 Cadmium	0.64	U	mg/kg	0.64	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48325	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-45-9 Chromium	0.64	U	mg/kg	0.64	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48326	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-47-3 Cobalt	25.3	U	mg/kg	25.3	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48327	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-50-8 Copper	8.7	U	mg/kg	8.7	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48328	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-52-2 Lead	30.0	U	mg/kg	30.0	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48329	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-52-2 Vanadium	53.9	U	mg/kg	53.9	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48330	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-56-6 Zinc	0.85	U	mg/kg	0.85	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48331	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-22-4 Silver	0.84	U	mg/kg	0.84	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48332	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-29-0 Thallium	0.84	U	mg/kg	0.84	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48333	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-36-0 Antimony	10.3	U	mg/kg	10.3	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48334	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:16:33	7440-38-3 Arsenic	44.0	J	mg/kg	44.0	06/16/2019	06/06/2019	06/15/2019	70.8	1.0266	500	MS	USED-4-0-0.5	SAVEM
48335	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-36-0 Antimony	2.4	U	mg/kg	2.4	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48336	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-38-3 Arsenic	5.5	U	mg/kg	5.5	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48337	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-39-3 Barium	106	U	mg/kg	106	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48338	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-41-7 Beryllium	1.2	U	mg/kg	1.2	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48339	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-43-9 Cadmium	23.6	U	mg/kg	23.6	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48340	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-45-9 Chromium	6.5	U	mg/kg	6.5	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48341	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-48-4 Cobalt	29.8	U	mg/kg	29.8	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48342	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-50-8 Copper	64.1	U	mg/kg	64.1	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48343	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-52-2 Lead	20.9	U	mg/kg	20.9	06/16/2019	06/06/2019	06/15/2019	39.6	1.0363	500	MS	USED-4-0-0.5	SAVEM
48344	MF9L61	MF9L61	1914424032	S	Field Sample	06/04/2019	18:21:20	7440-52-2 Vanadium	0.66	U											

48296	MF3L61	MF3M33	1914424010	S	Field_Sample	06/06/2019	15.82/04	7439.96/5	Martensene	670	mg/kg	2.2	05/18/2019	05/23/2019	05/18/2019	49.3	1.3851	USED-3-0-0-0-5-D	SAVEM
48296	MF3L61	MF3M33	1914424010	S	Field_Sample	06/06/2019	15.82/04	7439.96/5	Perastilum	2210	mg/kg	732	05/18/2019	05/23/2019	05/18/2019	49.3	1.3851	USED-3-0-0-0-5-D	SAVEM
48296	MF3L61	MF3M33	1914424010	S	Field_Sample	06/06/2019	15.82/04	7439.96/5	Sodium	732	mg/kg	732	05/18/2019	05/23/2019	05/18/2019	49.3	1.3851	USED-3-0-0-0-5-D	SAVEM
48296	MF3L61	MF3L62	1914424001	S	Field_Sample	06/06/2019	14.18/51	7439.97/6	Mercury	0.11	mg/kg	0.17	05/18/2019	05/23/2019	05/18/2019	51.7	0.5302	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L62	1914424002	S	Field_Sample	06/06/2019	14.17/59	7439.97/6	Mercury	0.045	mg/kg	0.13	05/18/2019	05/23/2019	05/18/2019	51.7	0.5302	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L64	1914424003	S	Field_Sample	06/06/2019	14.19/07	7439.97/6	Mercury	0.030	mg/kg	0.17	05/18/2019	05/23/2019	05/18/2019	70.8	0.5246	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L65	1914424004	S	Field_Sample	06/06/2019	14.20/14	7439.97/6	Mercury	0.074	mg/kg	0.24	05/18/2019	05/23/2019	05/18/2019	39.8	0.5218	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L66	1914424005	S	Field_Sample	06/06/2019	14.21/21	7439.97/6	Mercury	0.048	mg/kg	0.19	05/18/2019	05/23/2019	05/18/2019	46.4	0.5265	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L67	1914424006	S	Field_Sample	06/06/2019	14.22/29	7439.97/6	Mercury	0.086	mg/kg	0.22	05/18/2019	05/23/2019	05/18/2019	24.1	0.5278	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L68	1914424007	S	Field_Sample	06/06/2019	14.23/31	7439.97/6	Mercury	0.081	mg/kg	0.22	05/18/2019	05/23/2019	05/18/2019	46.4	0.5278	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L70	1914424008	S	Field_Sample	06/06/2019	14.25/39	7439.97/6	Mercury	0.074	mg/kg	0.17	05/18/2019	05/23/2019	05/18/2019	40.3	0.53746	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L71	1914424009	S	Field_Sample	06/06/2019	14.25/39	7439.97/6	Mercury	0.11	mg/kg	0.19	05/18/2019	05/23/2019	05/18/2019	51.0	0.5222	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L72	1914424010	S	Field_Sample	06/06/2019	14.27/00	7439.97/6	Mercury	0.057	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	52.5	0.5122	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L73	1914424011	S	Field_Sample	06/06/2019	14.24/44	7439.97/6	Mercury	0.040	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	55.1	0.5228	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L74	1914424012	S	Field_Sample	06/06/2019	14.25/52	7439.97/6	Mercury	0.032	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	52.6	0.52693	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L75	1914424013	S	Field_Sample	06/06/2019	14.26/47	7439.97/6	Mercury	0.074	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	52.6	0.52693	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L76	1914424014	S	Field_Sample	06/06/2019	14.27/54	7439.97/6	Mercury	0.11	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	53.5	0.5301	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L77	1914424015	S	Field_Sample	06/06/2019	14.29/01	7439.97/6	Mercury	0.11	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	53.9	0.5301	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L78	1914424016	S	Field_Sample	06/06/2019	14.30/08	7439.97/6	Mercury	0.11	mg/kg	0.23	05/18/2019	05/23/2019	05/18/2019	38.6	0.5403	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L79	1914424017	S	Field_Sample	06/06/2019	14.31/15	7439.97/6	Mercury	0.11	mg/kg	0.16	05/18/2019	05/23/2019	05/18/2019	52.3	0.5444	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L80	1914424018	S	Field_Sample	06/06/2019	14.32/23	7439.97/6	Mercury	0.10	mg/kg	0.22	05/18/2019	05/23/2019	05/18/2019	43.8	0.5126	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3M24	1914424019	S	Field_Sample	06/06/2019	14.32/31	7439.97/6	Mercury	0.11	mg/kg	0.17	05/18/2019	05/23/2019	05/18/2019	52.6	0.5735	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3M24	1914424020	S	Field_Sample	06/06/2019	14.35/44	7439.97/6	Mercury	0.11	mg/kg	0.17	05/18/2019	05/23/2019	05/18/2019	52.6	0.5735	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3M24	1914424021	S	Field_Sample	06/06/2019	14.27/00	7439.97/6	Mercury	0.047	mg/kg	0.17	05/18/2019	05/23/2019	05/18/2019	53.5	0.5516	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L81	1914424022	S	Field_Sample	06/27/2019	15.18/24	57-12-5	Cyanide	0.063	mg/kg	0.75	05/14/2019	05/27/2019	05/18/2019	58.7	0.5822	USED-3-0-0-0-5-D	SAVEM
48296	MF3L61	MF3L82	1914424023	S	Field_Sample	06/27/2019	15.34/00	57-12-5	Cyanide	0.87	mg/kg	0.87	05/16/2019	05/27/2019	05/18/2019	51.7	0.5579	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L83	1914424024	S	Field_Sample	06/27/2019	15.34/00	57-12-5	Cyanide	0.53	mg/kg	0.67	05/16/2019	05/27/2019	05/18/2019	70.6	0.5297	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L84	1914424025	S	Field_Sample	06/27/2019	15.35/12	57-12-5	Cyanide	0.29	mg/kg	1.1	05/16/2019	05/27/2019	05/18/2019	38.6	0.5852	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L85	1914424026	S	Field_Sample	06/27/2019	15.37/54	57-12-5	Cyanide	0.93	mg/kg	0.93	05/16/2019	05/27/2019	05/18/2019	48.4	0.5822	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L86	1914424027	S	Field_Sample	06/27/2019	15.39/06	57-12-5	Cyanide	0.24	mg/kg	0.49	05/16/2019	05/27/2019	05/18/2019	24.1	2.1752	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L87	1914424028	S	Field_Sample	06/27/2019	15.39/06	57-12-5	Cyanide	1.2	mg/kg	1.2	05/16/2019	05/27/2019	05/18/2019	40.3	0.5317	USED-3-0-0-0-5	SAVEM
48296	MF3L61	MF3L88	1914424029	S	Field_Sample	06/27/2019	15.21/06	57-12-5	Cyanide	0.91	mg/kg	0.91	05/14/2019	05/27/2019	05/18/2019	54.0	0.6055	USED-10-0-0-0-5	SAVEM
48296	MF3L61	MF3L70	1914424030	S	Field_Sample	06/27/2019	15.39/24	57-12-5	Cyanide	0.92	mg/kg	0.92	05/14/2019	05/27/2019	05/18/2019	51.0	0.5942	USED-10-0-0-0-5	SAVEM
48296	MF3L61	MF3L72	1914424031	S	Field_Sample	06/27/2019	15.42/06	57-12-5	Cyanide	0.075	mg/kg	0.75	05/17/2019	05/27/2019	05/18/2019	62.5	0.53	USED-12-0-0-0-5	SAVEM
48296	MF3L61	MF3L73	1914424032	S	Field_Sample	06/27/2019	15.42/06	57-12-5	Cyanide	0.043	mg/kg	0.65	05/17/2019	05/27/2019	05/18/2019	65.1	0.5609	USED-12-0-0-0-5	SAVEM
48296	MF3L61	MF3L74	1914424033	S	Field_Sample	06/27/2019	15.42/28	57-12-5	Cyanide	0.53	mg/kg	0.65	05/17/2019	05/27/2019	05/18/2019	55.8	0.5627	USED-12-0-0-0-5	SAVEM
48296	MF3L61	MF3L75	1914424034	S	Field_Sample	06/27/2019	15.42/28	57-12-5	Cyanide	0.094	mg/kg	0.84	05/14/2019	05/27/2019	05/18/2019	58.5	0.5676	USED-14-0-0-0-5	SAVEM
48296	MF3L61	MF3L76	1914424035	S	Field_Sample	06/27/2019	15.42/35	57-12-5	Cyanide	0.68	mg/kg	0.84	05/14/2019	05/27/2019	05/18/2019	52.9	0.5396	USED-14-0-0-0-5	SAVEM
48296	MF3L61	MF3L77	1914424036	S	Field_Sample	06/27/2019	15.45/18	57-12-5	Cyanide	0.11	mg/kg	1.2	05/13/2019	05/27/2019	05/18/2019	59.8	0.539	USED-16-0-0-0-5	SAVEM
48296	MF3L61	MF3L78	1914424037	S	Field_Sample	06/27/2019	15.45/36	57-12-5	Cyanide	0.062	mg/kg	0.86	05/13/2019	05/27/2019	05/18/2019	62.3	0.5541	USED-16-0-0-0-5	SAVEM
48296	MF3L61	MF3L79	1914424038	S	Field_Sample	06/27/2019	15.48/30	57-12-5	Cyanide	0.24	mg/kg	1.0	05/13/2019	05/27/2019	05/18/2019	43.8	0.5731	USED-18-0-0-0-5	SAVEM
48296	MF3L61	MF3M24	1914424039	S	Field_Sample	06/27/2019	15.48/42	57-12-5	Cyanide	0.035	mg/kg	0.94	05/14/2019	05/27/2019	05/18/2019	53.5	0.5479	USED-18-0-0-0-5	SAVEM
48296	MF3L61	MF3M24	1914424040	S	Field_Sample	06/27/2019	15.48/42	57-12-5	Cyanide	0.20	mg/kg	0.94	05/14/2019	05/27/2019	05/18/2019	53.5	0.5479	USED-18-0-0-0-5	SAVEM
48296	MF3L61	MF3M33	1914424041	S	Field_Sample	06/27/2019	15.43/18	57-12-5	Cyanide	1.0	mg/kg	1.0	05/18/2019	05/27/2019	05/18/2019	49.3	0.5913	USED-3-0-0-0-5-D	SAVEM

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 48266 SDG No. MF9L61 SDG Nos. To Follow _____ Mod. Ref No. _____ Date Rec. 6/10/19

EPA Lab ID: <u>ALS</u>	ORIGINALS	YES	NO	N/A
Lab Location: <u>Salt Lake City, UT</u>	CUSTODY SEALS			
Region: <u>6</u> Audit No.: <u>48266/MF9L61</u>	1. Present on package?	X		
Re_Submitted CSF? Yes _____ No <u>X</u>	2. Intact upon receipt?	X		
Box No(s): <u>1</u>	FORM DC-2			
COMMENTS:	3. Numbering scheme accurate?	X		
Item Description	4. Are enclosed documents listed?	X		
14./15. Sample tags were not used for this case.	5. Are listed documents enclosed?	X		
	FORM DC-1			
	6. Present?	X		
	7. Complete?	X		
	8. Accurate?	X		
	TRAFFIC REPORT /CHAIN-OF-CUSTODY RECORD(s)			
	9. Signed?	X		
	10. Dated?	X		
	AIRBILLS/AIRBILL STICKER			
	11. Present?	X		
	12. Signed?	X		
	13. Dated?	X		
	SAMPLE TAGS			
	14. Does DC-1 list tags as being included?			X
	15. Present?			X
	OTHER DOCUMENTS			
	16. Complete?	X		
	17. Legible?	X		
	18. Original?		X	
	18a. If "NO", does the copy indicate where original documents are located?	X		

Over for additional comments.

Audited by: 
 Audited by: _____
 Signature

Y. Hsieh / ESAT Data Reviewer

 Printed Name/Title

Date 07/02/19
 Date _____

DC-2__

USEPA CLP COC (REGION COPY)

Date Shipped: 5/14/2019
 Carrier Name: FedEx
 Airbill No: 7752 0180 4338

CHAIN OF CUSTODY RECORD

Lane Plating
 Case #: 48266
 Cooler #:

No: 6-051419-115042-0009
 Lab: ALS Laboratory Group - Salt Lake City
 Lab Contact: Meredith Edwards
 Lab Phone: 801-266-7700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
LSED-2-0-0-0.5	MF9L61	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	223 (ice to 6C) (1)	LSED-2-0-0-0.5	05/14/2019 18:10	Field Sample
LSED-10-0-0-0.5	MF9L69	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	239 (ice to 6C) (1)	LSED-10-0-0-0.5	05/14/2019 15:15	Field Sample
LSED-11-0-0-0.5	MF9L70	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	241 (ice to 6C) (1)	LSED-11-0-0-0.5	05/14/2019 14:35	Field Sample
LSED-15-0-0-0.5	MF9L74	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	249 (ice to 6C) (1)	LSED-15-0-0-0.5	05/14/2019 13:40	Field Sample
LSED-16-0-0-0.5	MF9L75	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	251 (ice to 6C) (1)	LSED-16-0-0-0.5	05/14/2019 12:20	Field Sample
LSED-17-0-0-0.5	MF9L76	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	253 (ice to 6C) (1)	LSED-17-0-0-0.5	05/13/2019 16:45	Field Sample
LSED-18-0-0-0.5	MF9L77	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	255 (ice to 6C) (1)	LSED-18-0-0-0.5	05/13/2019 16:05	Field Sample
LSED-19-0-0-0.5	MF9L78	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	257 (ice to 6C) (1)	LSED-19-0-0-0.5	05/13/2019 14:40	Field Sample
LSED-20-0-0-0.5	MF9L79	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	259 (ice to 5C) (1)	LSED-20-0-0-0.5	05/13/2019 13:00	Field Sample
LSED-16-0-0-0.5-D	MF9M24	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	502 (ice to 6C) (1)	LSED-16-0-0-0.5-D	05/14/2019 12:20	Field Duplicate

Sample(s) to be used for Lab QC: LSED-20-0-0-0.5 Tag 259 - Special Instructions: Case: 48266 - ICP-AES 5-10 Metals: Al, Ca, Fe, K, Mg, Mn, Na
 ICP-MS 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Ti, V, Zn
 + Mercury + Cyanide
 Analysis Key: ICPAES+MS+Hg+CN=ICPAES+MS+Hg+CN(ISM02.4)

Shipment for Case Complete? N
 Samples Transferred From Chain of Custody #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	<i>Brian Taylor</i> EA	5/14/19 2000	<i>FedEx (carrier)</i>	5/14/19 2000	

USEPA CLP COC (REGION COPY)

Date Shipped: 5/17/2019
 Carrier Name: FedEx
 Airbill No: 7752 4387 7836

CHAIN OF CUSTODY RECORD

Lane Plating
 Case #: 48266
 Cooler #:

No: 6-051619-085628-0031
 Lab: ALS Laboratory Group - Salt Lake City
 Lab Contact: Meredith Edwards
 Lab Phone: 801-266-7700

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
LSED-3-0-0-0.5	MF9L62	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	225 (ice to 6C) (1)	LSED-3-0-0-0.5	05/16/2019 10:30	Field Sample
LSED-4-0-0-0.5	MF9L63	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	227 (ice to 6C) (1)	LSED-4-0-0-0.5	05/16/2019 16:50	Field Sample
LSED-5-0-0-0.5	MF9L64	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	229 (ice to 6C) (1)	LSED-5-0-0-0.5	05/16/2019 15:50	Field Sample
LSED-6-0-0-0.5	MF9L65	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	231 (ice to 6C) (1)	LSED-6-0-0-0.5	05/16/2019 14:25	Field Sample
LSED-7-0-0-0.5	MF9L66	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	233 (ice to 6C) (1)	LSED-7-0-0-0.5	05/16/2019 15:05	Field Sample
LSED-8-0-0-0.5	MF9L67	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	235 (ice to 6C) (1)	LSED-8-0-0-0.5	05/16/2019 13:35	Field Sample
LSED-12-0-0-0.5	MF9L71	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	243 (ice to 6C) (1)	LSED-12-0-0-0.5	05/17/2019 10:35	Field Sample
LSED-13-0-0-0.5	MF9L72	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	245 (ice to 6C) (1)	LSED-13-0-0-0.5	05/17/2019 11:55	Field Sample
LSED-14-0-0-0.5	MF9L73	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	247 (ice to 6C) (1)	LSED-14-0-0-0.5	05/17/2019 12:35	Field Sample
LSED-3-0-0-0.5-D	MF9M33	Sediment/ Brian Taylor	Grab	ICPAES+MS+Hg+CN(21)	581 (ice to 6C) (1)	LSED-3-0-0-0.5-D	05/16/2019 10:30	Field Duplicate

Sample(s) to be used for Lab QC: LSED-13-0-0-0.5 Tag 245, LSED-14-0-0-0.5 Tag 247 - Special Instructions: Case: 48266 - ICP-AES 5-10 Metals: Al, Ca, Fe, K, Mg, Mn, Na
 ICP-MS 11+ Metals: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Ti, V, Zn
 + Mercury + Cyanide

Shipment for Case Complete? Y

Samples Transferred From Chain of Custody #

Analysis Key: ICPAES+MS+Hg+CN=ICPAES+MS+Hg+CN(ISM02.4)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	<i>Brian Taylor EA</i>	5/17/19 2000	<i>FedEx (carrier)</i>	5/18/19 2000	